**IN THE UNITED STATES DISTRICT COURT
FOR THE WESTERN DISTRICT OF TEXAS
WACO DIVISION**

NETLIST, INC.

      Plaintiff,

         vs.

SK HYNIX INC. and
SK HYNIX AMERICA INC.

      Defendants

Civil Action No. 6:20-cv-00194-ADA
Civil Action No. 6:20-cv-00525-ADA

JURY TRIAL DEMANDED

PLAINTIFF NETLIST, INC.'S OPENING CLAIM CONSTRUCTION BRIEF
AS TO U.S. PATENT NO. 10,217,523

TABLE OF CONTENTS

TABLE OF AUTHORITIES

Page(s)

Cases

TABLE OF EXHIBITS

Exhibit	Description
1	U.S. Patent No. 9,858,218
2	U.S. Patent No. 10,474,595
3	Brent Keeth et al., DRAM CIRCUIT DESIGN (IEEE, 2008)
4	Claim Construction Order, *Certain Memory Modules and Components Thereof, and Products Containing Same*, Inv. No. 337-TA-1089, Order No. 17 (USITC Aug. 30, 2018)
5	Initial Determination, *Certain Memory Modules and Components Thereof, and Products Containing Same*, Inv. No. 337-TA-1089 (USITC Oct. 21, 2019)
6	Computer Desktop Encyclopedia (9th Ed., 2001)
7	Microsoft Computer Dictionary (5th Ed., 2002)
8	Hearing Transcript, *Certain Memory Modules and Components Thereof, and Products Containing Same*, Inv. No. 337-TA-1023, (USITC May 8, 2017)
9	*SK hynix v. Netlist*, IPR2020-01044, Paper No. 1, Petition for *Inter Partes* Review (PTAB Jun. 8, 2020)
10	*SK hynix v. Netlist*, IPR2020-01042, Paper No. 1, Petition for *Inter Partes* Review (PTAB Jun. 8, 2020)
11	Notice of Comm'n Det. to Review In Part Final ID, *Certain Memory Modules and Components Thereof, and Products Containing Same*, Inv. No. 337-TA-1089, (USITC Jan. 31, 2020)
12	'595 Patent IDS dated March 1, 2019
13	Rebuttal Witness Statement of Robert Murphy*, Certain Memory Modules and Components Thereof, and Products Containing Same*, Inv. No. 337-TA-1089 (USITC Nov. 30, 2018) (Confidential)
14	The IEEE Standard Dictionary of Electrical and Electronics Terms (6th Ed., 1996)

Exhibit	Description
15	Transcript of the Deposition of Robert G. Wedig, *Certain Memory Modules and Components Thereof, and Products Containing Same*, Inv. No. 337-TA-1023 (USITC Mar. 30, 2017) (Confidential)
16	Initial Determination, *Certain Memory Modules and Components Thereof, and Products Containing Same*, Inv. No. 337-TA-1023, Initial Determination (USITC Nov. 11, 2017)
17	Merriam-Webster's Collegiate Dictionary (10th ed., 2001)
18	Rebuttal Witness Statement of Dr. William Mangione-Smith, *Certain Memory Modules and Components Thereof, and Products Containing Same*, Inv. No. 337-TA-1023 (USITC Apr. 14, 2017) (Confidential)
19	Corrected Witness Statement of Robert G. Wedig, *Certain Memory Modules and Components Thereof, and Products Containing Same*, Inv. No. 337-TA-1023 (USITC Apr. 6, 2017) (Confidential)
20	Deposition Transcript Excerpt of Robert G. Wedig, Ph.D. dated October 16, 2018 (CBI)
21	U.S. Patent No. 10,217,523
22	Witness Statement of William Mangione-Smith, *Certain Memory Modules and Components Thereof, and Products Containing Same*, Inv. No. 337-TA-1023 (USITC Apr. 6, 2017) (Confidential)
23	Initial Determination, *Certain Memory Modules and Components Thereof, and Products Containing Same*, Inv. No. 337-TA-1023 (USITC Nov. 14, 2017)
24	Non-Final Rejection (USPTO March 9, 2016)
25	Applicant Arguments (USPTO July 11, 2016)
26	Final Rejection (USPTO October 20, 2016)
27	SK hynix's Pre-Hearing Brief, *Certain Memory Modules and Components Thereof, and Products Containing Same*, Inv. No. 337-TA-1023 (USITC April 18, 2017) (Confidential)

Exhibit	Description
28	Rebuttal Witness Statement of William Hoffman, *Certain Memory Modules and Components Thereof, and Products Containing Same*, Inv. No. 337-TA-1023 (USITC Apr. 16, 2017)
29	U.S. Patent No. 8,689,064

TABLE OF DISPUTED TERMS AND PROPOSED CONSTRUCTIONS

Claim Term	Plaintiff	Defendants
"first mode"	The term "first" does not require construction. The term "mode" means "a distinct behavioral state that a system may be switched to."	"normal mode"
"second mode"	The term "second" does not require construction. The term "mode" means "a distinct behavioral state that a system may be switched to."	"self-test mode"
"data handler logic element[s]"	The term "data handler logic element[s]" does not require construction and should receive its plain and ordinary meaning as understood by a person of ordinary skill in the art at the time of the invention.	"logic element(s) that generate and manage data, where generate means to produce (i.e., bring into existence, including by transformation or modification of information and/or data received from another component), which does not include packing and unpacking data from a packet, and manage means to process, transfer and/or control the movement of"
"data handler"	The term "data handler" does not require construction and should receive its plain and ordinary meaning as understood by a person of ordinary skill in the art at the time of the invention.	"circuitry that generates and manages data, where generate and manage have the meanings set forth above"
"data module"	The term "data module" does not require construction and should receive its plain and ordinary meaning as understood by a person of ordinary skill in the art at the time of the invention.	"module including multiple [data handlers]" (footnote: handlers construed separately below)

Pursuant to the Amended Scheduling Order Governing the '525 And '194 Cases (Dkt. No. 73), Plaintiff Netlist, Inc. ("Netlist") submits its opening claim construction brief on the disputed claim terms of U.S. Patent No. 10,217,523 (Ex. 21[1]) (the "'523 Patent").

I.   INTRODUCTION

Patent claims should be interpreted as written. *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312-13 (Fed. Cir. 2005) (en banc). Ignoring this axiom, Defendants seek to re-write the claims to incorporate unclaimed limitations taken from certain embodiments, dependent claims, and even related patents. For example, Defendants attempt to rewrite the terms "first mode" and "second mode" to recite specific modes of operation disclosed in the specification. This contravenes basic claim construction law. There is no support for limiting these terms to two specific modes disclosed in the specification, as Defendants seek to do here.

Similarly, Defendants borrow the "generate" limitation from the claims of patents not at issue here and attempt to force that term into the "data module," "data handler," and "data handler logic elements" claim terms of the '523 Patent. Not stopping there, Defendants take the extraordinary additional step of seeking to further construe two unsupported sub-terms they injected into their proposed construction—neither of which are in the '523 Patent claims. To make this unsupported argument, Defendants point to ordinary words widely used in the field: data, module, handler, and logic elements. To prevail, Defendants must show that the patentee acted as its own lexicographer and redefined these terms, but they cannot do so.

The Court should reject Defendants' inappropriate attempts to rewrite the claims.

---

[1] Exhibits numbering continues from the last round of claim construction briefing. *See* ECF Nos. 053, 061, 066.

II.   BACKGROUND OF THE TECHNOLOGY

As with the other patents for construction in this consolidated matter, the technology relevant to the '523 Patent pertains to memory modules. Memory modules fit into a memory slot on a computer motherboard and serve as memory, storing information for fast access by the computer system's processor. Memory modules like the products accused in this case are printed circuit boards (PCBs) that contain DRAM chips (among other components) mounted on both sides of the PCB. These are called dual in-line memory modules ("DIMMs").

As depicted below, multiple DIMMs can be inserted into the sockets of a server or computer workstation in order to serve as the external memory of a CPU. *See, e.g.,* Ex. 22, Witness Statement of William Mangione-Smith, 1023 Inv., at Q/A 96, 221. The CPU interacts with the DIMMs via memory controller, as depicted below.
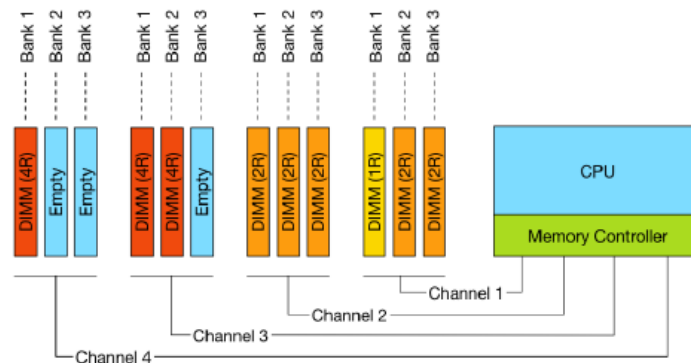
The type of DIMMs accused of infringing the '523 Patent are referred to as Load-Reduced DIMMs ("LRDIMMs"). LRDIMMs utilize a distributed architecture, including multiple data buffers ("DBs") in addition to a register clock driver device ("RCD"). *See, e.g.*, *id*. at Q/A 64. As shown in the figure below depicting the LRDIMM architecture, nine data buffers (boxed in red) reside on the PCB. *Id.* at Q/A 67-71. The DBs are electrically connected to the DRAM chips, the RCD, and—via the gold connectors at the bottom of the DIMM—the host memory controller.

2
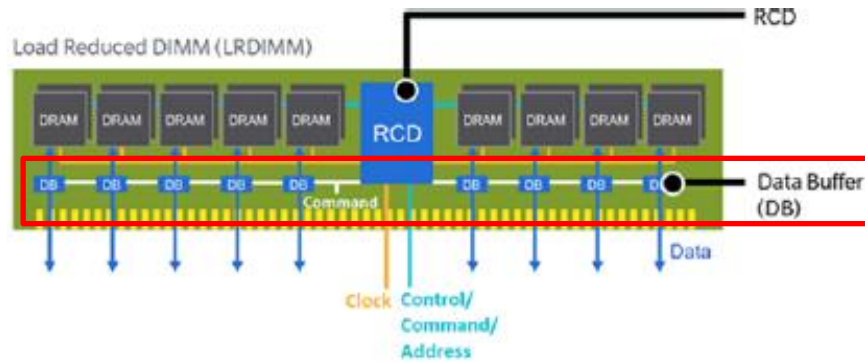
This distributed architecture reduces congestion and the electrical load on the host memory controller caused by the high volume of read and write transactions, allowing the LRDIMM to achieve faster performance. *Id.*

To avoid failures of memory components in the system, prior to normal use DIMMs undergo a number of tests both individually and as part of a fully assembled system. *See, e.g.*, '523 Patent at 1:41-3; Ex. 22 at Q/A 67-71. An external tester or test apparatus can be used to apply stimulus, e.g., test patterns, and may assist in verifying the results of the test. *See*, *e.g.*, Ex. 22 at Q/A 74-77. Another approach is "self-test," which occurs when parts of the device or system under test are used as part of the test apparatus. *Id.* This reduces the complexity or amount of work an external tester needs to perform. *Id.* When extra circuitry or modes are added to the circuits or module to perform the testing, this can be referred to as Built-In Self-Test ("BIST"). *Id.* BIST may still require the use of an external tester to test a particular device, or there might be fully contained testing functionality in a device or system. *Id.*

III.   **LEGAL PRINCIPLES GOVERNING CLAIM CONSTRUCTION**

"The purpose of claim construction is to 'determine the meaning and scope of the patent claims asserted to be infringed.'" *O2 Micro Int'l Ltd. v. Beyond Innovation Tech. Co., Ltd.*, 521 F.3d 1351, 1360 (Fed. Cir. 2008) (quoting *Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 976 (Fed. Cir. 1995) (en banc), *aff'd* 517 U.S. 370 (1996)). The analysis begins with the words of

the claim, which are given their ordinary and customary meaning as understood by a person of

skill in the art at the time of the invention. *Phillips*, 415 F.3d at 1312-13. "Importantly, the person

of ordinary skill in the art is deemed to read the claim term not only in the context of the particular

claim in which the disputed term appears, but in the context of the entire patent, including the

specification." *Id*. at 1313. As a result, claim construction focuses on the claims, the specification,

and the prosecution history. These materials comprise the "intrinsic" evidence. *Id.* at 1315.

Only when the intrinsic evidence fails to shed light on the meaning of claim terms may

courts consider extrinsic evidence, such as expert testimony, dictionaries, treatises, and prior art

not cited in the prosecution history. *Zodiac Pool Care, Inc. v. Hoffinger Indus.*, 206 F.3d 1408,

1414 (Fed. Cir. 2000) (citing *Vitronics Corp. v. Conceptronic, Inc.*, 90 F.3d 1576, 1582-84 (Fed.

Cir. 1996)). But, "extrinsic evidence in general, and expert testimony in particular, may be used

only to help the court come to the proper understanding of the claims; it may not be used to vary

or contradict the claim language." *Vitronics*, 90 F.3d at 1584 (citing *Markman*, 52 F.3d at 981).

There are only two exceptions to the general rule that claims are given their ordinary and

customary meaning, when the patentee: (1) acts as his/her own lexicographer or (2) disavows the

full scope of the claim term either in the specification or during prosecution. *Digital Retail Apps,*

Inc. v. H-E-B LP, Civ. No. 6-19-CV-00167-ADA, 2020 U.S. Dist. LEXIS 11094, at *5 (Jan. 23,

2020) (Albright, J.) (citing *Thorner v. Sony Computer Entm't Am. LLC*, 669 F.3d 1362, 1365-66

(Fed. Cir. 2012)). "To act as its own lexicographer, a patentee must clearly set forth a definition

of the disputed claim term other than its plain and ordinary meaning" and "clearly express an intent

to redefine the term." *Id.* Disavowal requires "a clear and unmistakable disclaimer." *Thorner*, 669

F.3d at 1366-67. "If the challenged statements are ambiguous or amenable to multiple reasonable

interpretations, prosecution disclaimer is not established." *Tech. Properties Ltd. LLC v. Huawei Techs. Co.*, 849 F.3d 1349, 1358 (Fed. Cir. 2017) (citation omitted).

IV.   LEVEL OF ORDINARY SKILL IN THE ART

The ITC concluded with regard to the Parent Patents[2] of the '523 Patent that a person of ordinary skill in the art would have "a Bachelor's degree in electrical engineering, computer engineering, or in a related field and at least one year of work experience relating to memory systems, and would be familiar with the design of memory devices, memory modules, and built-in-self test or BIST." Ex. 23, Initial Determination, 1023 Inv., at 19. This Court should adopt the same definition here, for the same reasons.

V.   DISPUTED CLAIM TERMS FOR CONSTRUCTION

A.   The "Mode" Claim Terms

Claim Term	Plaintiff	Defendants
"first mode"	The term "first" does not require construction. The term "mode" means "a distinct behavioral state that a system may be switched to."	"normal mode"
"second mode"	The term "second" does not require construction. The term "mode" means "a distinct behavioral state that a system may be switched to."	"self-test mode"

The Court should adopt Netlist's proposed construction that "mode" means "a distinct behavioral state that a system may be switched to." The Court should also decline to construe the terms "first" and "second," which are easily understandable by laypersons and skilled artisans alike. Netlist's proposal is supported by the intrinsic evidence, which alone compels adopting it.

---

[2] The parent patents to the '523 Patent are U.S. Patent Nos. 8,001,434, 8,359,501, and 8,689,064. (collectively, the "Parent Patents"). Netlist asserted these parent patents against Defendants in International Trade Commission Investigation No. 337-TA-1023.

Extrinsic evidence also supports Netlist's proposed construction. Defendants' proposal fails to define the disputed term, "mode," and instead improperly attempts to import elements of the preferred embodiments of the patents into the claims.

1.   Intrinsic Evidence Compels Netlist's Construction

Claim interpretation starts with the intrinsic record, "the patent itself, including the claims, the specification and, if in evidence, the prosecution history. Such intrinsic evidence is the most significant source of the legally operative meaning of disputed claim language." *Vitronics*, 90 F.3d at 1582 (citing *Markman*, 52 F.3d at 979). Here, the specification supports, if not compels, the conclusion that "mode" means "distinct behavioral state that a system may be switched to." The specification discusses, for example, "a memory subsystem [that] is operable in any of **a plurality of modes** including a normal mode and a test mode[]" as separate and distinct exemplary modes during which operations occur. '523 Patent at 2:38-47 (emphasis added). With this, the specification clearly contemplates additional modes beyond merely one "normal mode" and one "test mode." Further, the specification discloses:

> **For example**, the memory module 10 may default to a non-test mode (e.g., normal operational mode) and the switches 44 of the data handlers 30 and the memory device controller 34 are not configured in a test mode. . . . **For example**, configuring the test mode may include switching (e.g., by configuring the test controller 36) the mode of the memory module 10 from a normal operation mode to the test mode.

Id. at 13:59-14:4 (emphasis added). Therefore, the exemplary modes taught in the specification are just that: exemplary and not limiting. But it is also plain that these exemplary modes are also **distinct**—in other words, the module may operate in one mode or another, but not both at the same time. Netlist's construction captures that meaning of mode taught by the patent. By contrast, and even apart from their improper attempt to read limitations into the claim language based on exemplary embodiments, Defendants' constructions fail to even address its meaning.

Moreover, contrary to Defendants' proposals, the claimed "modes" are not limited to "normal" and "self-test." As noted, the modes taught in the specification are merely exemplary, and should not be injected into the claims. *See Cont'l Circuits LLC v. Intel Corp.*, 915 F.3d 788, 797-98 (Fed. Cir. 2019) (embodiments should not be read into claim terms); *Acumed LLC v. Stryker Corp.*, 483 F.3d 800, 805 (Fed. Cir. 2007) (quoting *Phillips*, 415 F.3d at 1323) ("'[A]lthough the specification often describes very specific embodiments of the invention, we have repeatedly warned against confining the claims to those embodiments.'"). Specifically, the claimed modes may be any "plurality of modes" having distinct behavioral states taught by the specification. '523 Patent at 2:38-47.

The claims, not exemplary modes described in the specification, limit the properties of the recited first and second modes. Indeed, the claims expressly set forth what the respective "modes" require. *See id.* at claim 1 ("wherein the control module in the first mode is configured to receive system address and control signals from the system memory controller … wherein the control module in the second mode is configured to output second memory address and control signals to the address and control ports of the memory devices, ….").

There is nothing in the specification that supports, let alone requires, Defendants' construction that the "first" mode must be a "normal" mode. *See, e.g.*, '523 Patent at 15:9-12 ("For example, the testing logic (e.g., the control module 22 and/or the data module 28) may be generally inactive and the memory module 10 may default to a **functional** (e.g., non-test) mode.") (emphasis added). There is also nothing in the specification indicating that the patentee intended to act as a lexicographer, such as one that might impose a requirement that "second" can only mean "self-test." *See Digital Retail Apps, Inc.*, 2020 U.S. Dist. LEXIS 11094, at *5 ("To act as its own lexicographer, a patentee must **clearly set forth a definition** of the disputed claim term other than

7

its plain and ordinary meaning" and must "**clearly express an intent to redefine the term**.")
(emphasis added) (citing *Thorner*, 669 F.3d at 1365-66).

In addition, disavowal requires "a clear and unmistakable disclaimer." *Thorner*, 669 F.3d
at 1366-67. If language in the prosecution history is "ambiguous or amenable to multiple
reasonable interpretations, prosecution disclaimer is not established." *Tech. Properties Ltd. LLC*,
849 F.3d at 1358 (citing *MIT v. Shire Pharm., Inc.*, 839 F.3d 1111, 1119 (Fed. Cir. 2016)). Netlist
is aware of nothing in the record that might come close to supporting such unmistakable disclaimer.

2.   Extrinsic Evidence Also Supports Netlist's Construction

Although it is unnecessary here to consult extrinsic evidence given the clear teachings of
the intrinsic record, technical dictionaries also support Netlist's proposed construction. For
example, the Computer Desktop Encyclopedia defines "mode" as "[a]n operational state that a
system, has been switched into" which "implies at least two possible conditions." Ex. 6, Computer
Desktop Encyclopedia (9th Ed.) at 1023NETLIST_01831458. Likewise, the Microsoft Computer
Dictionary defines "mode" as "the operational state of a computer or a program. For example, edit
mode is the state in which a program accepts changes to a file." Ex. 7, Microsoft Computer
Dictionary (5th Ed., 2002) at NETLIST_WDTEX-0000009-11. A skilled artisan would be familiar
with these accepted technical definitions.

3.   Defendants' Proposal Incorrectly Seeks to Import Limitations into the Claim Language

Defendants' proposals are overly limiting on their face. In particular, Defendants' proposed
construction, "'first mode' means 'normal mode' [and] 'second mode' means 'self-test mode,'"
seeks to import into the claims exemplary embodiments taught in the specification. The
specification states that a "memory subsystem [that] is operable in any of a plurality of modes
including a normal mode and a test mode." '523 Patent at 2:38-47 (emphasis added). The Federal

Circuit has repeatedly recognized that the plain-English term "including" is an open-ended and non-limiting word in the context of claim language. *See SanDisk Corp. v. Memorex Products, Inc.*, 415 F.3d 1278, 1284 (Fed. Cir. 2005) ("As a patent law term of art, 'includes' means 'comprising.' Neither includes, nor comprising, forecloses additional elements that need not satisfy the stated claim limitations." (citations omitted)); *Hewlett-Packard Co. v. Repeat-O-Type Stencil Mfg. Corp., Inc.*, 123 F.3d 1445, 1451, (Fed. Cir. 1997) ("The claim term 'including' is synonymous with 'comprising,' thereby permitting the inclusion of unnamed components."). Therefore, it would be improper to limit the "first mode" and "second mode" to the "normal mode" and "[self-]test mode" disclosed in the exemplary embodiments taught in the specification.

Defendants' constructions also do not comport with the understanding one skilled in the art would have of the plain language of the claims. Defendants' construction contravenes a long-established principle of claim construction law by improperly importing limitations. Absent clear and unmistakable disclaimer, or the patentee acting as its own lexicographer, claim construction "involves little more than the application of the widely accepted meaning of commonly understood words." *Phillips*, 415 F.3d at 1312. Here, Defendants can find no disclaimer or lexicography in the specification or file history to import their overly narrow restrictions into the words "first" and "second," just as there is no support in the record for importing additional limitations into the term "mode." *Toshiba Corp. v. Imation Corp.*, 681 F.3d 1358, 1369 (Fed. Cir. 2012) ("Absent disclaimer or lexicography, the plain meaning of the claim controls.").

The prosecution history further supports Netlist's position that the normal and self-test are exemplary modes. For example, in a March 9, 2016 non-final rejection, the examiner rejected a then-pending claim because the "plurality of modes" claim limitation referred only to a "test mode" and was thus allegedly too vague. Ex. 24, March 9, 2016 Non-Final Rejection at 5. According to

the examiner, "the interrelationship and/or interconnection between the plurality of modes are

unclear." *Id*. In response, the Applicant amended the challenged claim and argued that "a 'normal

mode' **is added as *another exemplary mode* of the plurality of modes**[.]" Ex. 25, July 11, 2016,

Applicant Arguments at 16 (emphasis added). The Examiner did not renew his objection. *See* Ex.

26, October 20, 2016 Final Rejection. Thus, the examiner understood and agreed, and the public

was thereby on notice, that "normal" and "test" modes are merely exemplary of the plurality of

modes taught by the specification.

B.   The "Data Handler" Claim Elements

Claim Term	Plaintiff	Defendants
"data handler logic element[s]"	The term "data handler logic element[s]" does not require construction and should receive its plain and ordinary meaning as understood by a person of ordinary skill in the art at the time of the invention.	"logic element(s) that generate and manage data, where generate means to produce (i.e., bring into existence, including by transformation or modification of information and/or data received from another component), which does not include packing and unpacking data from a packet, and manage means to process, transfer and/or control the movement of"
"data handler"	The term "data handler" does not require construction and should receive its plain and ordinary meaning as understood by a person of ordinary skill in the art at the time of the invention.	"circuitry that generates and manages data, where generate and manage have the meanings set forth above"

The terms "data handler logic element[s]" and "data handler" need no construction. These

simple terms are readily understood by a person of ordinary skill in the art reading the '523 Patent

specification. *See Phillips*, 415 F.3d at 1314 ("the ordinary meaning of claim language as

understood by a person of skill in the art may be readily apparent even to lay judges, and claim

construction in such cases involves little more than the application of the widely accepted meaning

10

of commonly understood words."). Defendants' proposed constructions for these terms do not resolve any ambiguity or dispute over claim scope, or provide any clarity that might be lacking from the plain language of the claims. Instead, Defendants' proposed construction seeks to substitute simple four-word and two-word claim terms with constructions comprised of over 50 words of unnecessary and ambiguous verbiage—including two derivative constructions—that would also improperly import embodiments as limitations into the claims. Further, none of these terms are difficult technical terms for which a construction would help the jury understand the meaning of the term. *Kroy IP Holdings, LLC v. Safeway, Inc.*, No. 2:12-cv-800-WCB, 2014 U.S. Dist. LEXIS 102136, at *2 (E.D. Tex., July 28, 2014).

In short, these claim terms do not need to be construed.

1.   The '523 Patent Specification Demonstrates The Scope of "Data Handler Logic Element[s]" and "Data Handler"

As noted, claim interpretation starts with the intrinsic record, which "is the most significant source of the legally operative meaning of disputed claim language." *Vitronics*, 90 F.3d at 1582 (citing *Markman*, 52 F.3d at 979). The claim terms should be "read in view of the specification, of which they are a part." *Phillips*, 415 F.3d at 1309. Here, to the extent there might be any doubt in view of the readily understood and plain language of the claim language itself, the specification provides ample additional guidance to a person skilled in the art.

For example, Figure 3, annotated and excerpted below, demonstrates how the "data handler logic element" and "data handler" are related to the other components. *See* '523 Patent at Fig. 3. According to the specification, the memory module "includes a data module 28," highlighted in red below, "comprising a plurality of data handlers 30," highlighted in blue below. '523 Patent at 5:15-16. Further, "the data handlers 30 … includes a data handler logic element 46," highlighted in green below. '523 Patent at 10:37-38. However, the data handlers need not necessarily comprise

11

a data generation element, as Defendants may contend. Rather, the components depicted in Figure

3 are merely exemplary. *Id*. at 12:44-50 (components may include "the switch 44, the data handlers

30, the data handler logic element 46, the data generation element 54, **and/or** verification element

56") (emphasis added).

FIG. 3
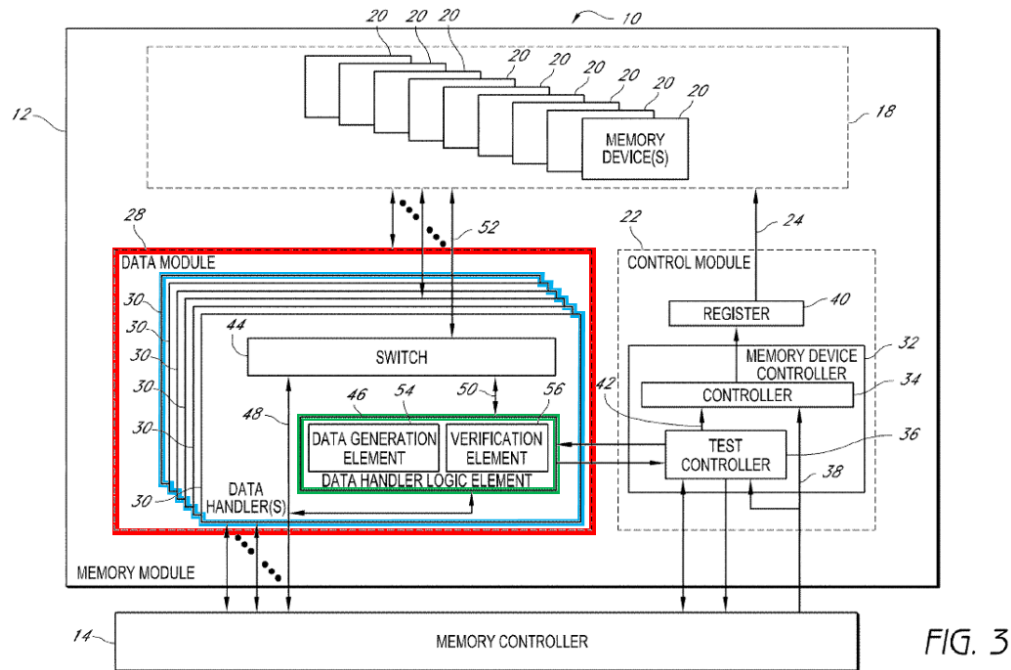
Based on these express teachings of the intrinsic evidence alone, there is no need to redefine these

terms. *See Phillips*, 415 F.3d at 1317. Thus, the Court should decline to construe these terms and

instead adopt a plain and ordinary meaning.

> ### 2.   Defendants' Attempt to Import Unsupported Limitations into the Claim Language Should be Rejected

Defendants propose a potpourri of limitations, each one both less helpful and more

erroneous than the last. To best understand it, the table below deconstructs this proposal[3]:

---

[3] While this table shows the construction for "data handler logic element[s]," Defendants' construction of "data handler" suffers from the same deficiencies.

Defendants' Construction	Deconstruction
"logic element(s) that generate and manage data, where generate means to produce (i.e., bring into existence, including by transformation or modification of information and/or data received from another component), which does not include packing and unpacking data from a packet, and manage means to process, transfer and/or control the movement of"	(1) Using the terms that it attempts to define. (2) Ambiguous, extraneous, and unsupported verbs. (3) First derivative construction of non-claim-term "generate." (4) Additional negative limitation. (5) Second derivative construction of non-claim-term "manage."

- First, shown in red above, Defendants do not propose a construction of "data" and "logic elements," but rather includes these terms in the construction itself, resulting in an improper circular definition. *See Sparton Corp. v. United States*, 68 Fed. Cl. 34, 47 (2005) (stating that a "circular definition (*i.e.*, one that uses the word that it attempts to define in the definition itself) [is] clearly improper").

- Second, shown in blue above, Defendants propose that the only remaining word – "handler" – means something that "generates and manages data." But recognizing that adopting this language would necessarily introduce unhelpful and confusing ambiguities, Defendants are forced to clarify. *See Internet Machs. LLC v. Alienware Corp.,* No. 6:10-CV-023, 2011 WL 2551295 (E.D. Tex. June 24, 2011), at *6 (rejecting proposed unhelpful and confusing construction); *Chimie v. PPG Indus., Inc.*, 402 F.3d 1371, 1377 (Fed. Cir. 2005) ("Courts construe claim terms in order to assign a fixed, unambiguous, legally operative meaning to the claim."). Importantly, there is **no support in the intrinsic record** requiring the terms "generate" and "manage" to be read into the claims. *See Thorner*, 669 F.3d at 1366.

- Third, shown in purple above, Defendants propose the first of two derivative constructions of their own construction, with a definition for "generate" that would also inject additional

ambiguity and confusion into the claim term. As the Federal Circuit has made clear, construing terms that **<u>do not</u>** appear in the claims is typically not acceptable. *See Edwards Lifesciences LLC v. Cook Inc.*, 582 F.3d 1322, 1334 (Fed. Cir. 2009) ("we do not ordinarily construe words that are not in claims."). No basis exists to depart from this general practice.

- Fourth, shown in green above, Defendants propose adding an unsupported **<u>negative</u>** limitation to purportedly clarify what the non-claim-term "generate" does not include. *See Eko Brands, LLC v. Adrian Rivera Maynez Enters.*, 946 F.3d 1367, 1381 (Fed. Cir. 2020) ("Negative limitations added during claim construction must find support either in the specification or the prosecution history."). In particular, the "packing and unpacking" limitation has absolutely **<u>no support in the intrinsic record</u>** and is both ambiguous and confusing. *Internet Machs. LLC,* 2011 WL 2551295 at *6; *Chimie*, 402 F.3d at 1377 ("Courts construe claim terms in order to assign a fixed, unambiguous, legally operative meaning to the claim.").

- Fifth, shown in orange above, Defendants propose the second of two derivative constructions of their own construction, with a definition for "manage." This is unnecessary and improper for the same reasons that adding a derivative construction for the term "generate" would be improper. *See Edwards Lifesciences LLC*, 582 F.3d at 1334 ("we do not ordinarily construe words that are not in claims.").

Defendants' fractured, unsupported, and unhelpful approach fails to serve the central purpose of claim construction, namely "to clarify and **<u>when necessary</u>** to explain what the patentee covered by the claims." *U.S. Surgical Corp. v. Ethicon, Inc.*, 103 F.3d 1554, 1568 (Fed. Cir. 1997) (emphasis added). And nothing in the specification justifies Defendants' multi-layered approach to construing these terms. Claims should be given their plain and ordinary meaning unless one of

two circumstances exists: a patentee acts as her own lexicographer, or disavows the full scope of

a claim term. *Thorner*, 669 F.3d at 1365-66. Both avenues require a clear and explicit statement

by the patentee. *Id*. Neither circumstance exists in the record.

At best Defendants may try to point to certain embodiments in the specification to justify

importing the extraneous limitations. But *Phillips* cautions against rewriting the claims to fit the

disclosed embodiments. *Phillips*, 415 F.3d at 1323 ("we have repeatedly warned against confining

the claims to those embodiments."). Moreover, the mere fact that some embodiments, or even all

embodiments, contain a particular limitation is "not enough" to read those limitations from the

specification into the claims. *Id*. at 1466-67 ("We do not read limitations from the specification

into claims; we do not redefine words. Only the patentee can do that."). As noted, there is no reason

here to deviate from the plain and ordinary meaning of these claim terms. The Court should decline

to improperly rewrite the claims as Defendants urge.

> ### 3.   Defendants' Prior Positions and the Extrinsic Record Contradicts Defendants' Proposed Constructions

Even worse, Defendants' attempts to read the verbs "generate" and "manage" into the

terms, when viewed in the context of the entire claim element, run directly counter to prior

positions Defendants have taken. The relevant claim element in the '523 Patent reads: "the data

module in the second mode is configured . . . to transmit one or more second data signals including

data patterns **provided by the data handler logic elements** to the data ports" (claim 1) and "each

respective **data handler is configured to provide** respective data patterns" (claim 19). '523

Patent. Thus, the operative verb with respect to "data handler logic elements" and "data handler"

is "**provide**." *See id*.

Importantly, Defendants previously took the position that, with respect to the Parent

Patents with the same specification, the verb "generate" is **incompatible** with the verb "provide."

Specifically, where parent patent claims actually claimed data handlers that "generate" (unlike here), Defendants argued that data handlers that "merely provided" **cannot** meet this limitation. Ex. 27, SK hynix's Pre-Hearing Brief, 1023 Investigation, at 71-72. Further, Defendants' expert testified that "the term 'generate' . . . **does not include** . . . 'provide.'" Ex. 28, Rebuttal Witness Statement of William Hoffman at Q/A 234 (emphasis added). Defendants expressly took the same position. Ex. 27, Excerpt from SK hynix's Pre-Hearing Brief at 68. Defendants' demonstrative excerpted below shows that Defendants and their expert believe that "generate" **does not mean** "provide." Ex. 28, Rebuttal Witness Statement of William Hoffman at Q/A 234.

Claim Construction: "Generate" ('434, '501, '064 patents)	
"Generate" Means	**"Generate" Does Not Mean**
"produce (i.e., bring into existence)"	"cause" "write" "receive" "provide" "issue" "initiate" "transmit" "initiate transmission" "output predetermined value" "move from point A to B" "copy" or "repeat"

RDX-1586C.126

Defendants now attempt to adopt the exact opposite position, namely, that a data handler that "provides" data according to a patent's plain claim terms nonetheless means a data handler that "generates" data. The problem for Defendants is that, unlike the Parent Patents, the '523 Patent at issue here **does not claim a data handler that "generates" data**. *See generally* '523 Patent at claims. By contrast, for example, Parent Patent 8,689,064 expressly claims "a plurality of data handlers . . . configured to **generate**." Ex. 29, U.S. Patent No. 8,689,064 at claim 16 (emphasis

added). But as explained above, the '523 Patent expressly claims a data handler that **provides** data;
not one that generates data.

Thus, according to the prior positions of Defendants and their expert, a data handler that
"provides" need not "generate." To argue otherwise, as Defendants appear to do now out of the
other side of the mouth, runs contrary to their long-held positions in litigation involving the Parent
Patents. Worse still, adopting this position would endorse the plainly improper attempt to read
limitations from the claims of different patents into the claims of the patent actually before the
Court. *Cf. Seachange Int'l, Inc. v. C-COR Inc.*, 413 F.3d 1361, 1369 (Fed. Cir. 2005) ("two
independent claims have different scope when different words or phrases are used in those
claims"); *CAE Screenplates Inc. v. Heinrich Fiedler GmbH & Co. KG*, 224 F.3d 1308, 1317 (Fed.
Cir. 2000) ("the use of . . . different terms in the claims connotes different meanings").

Finally, Defendants' attempt to inject the term "manage" into the claims is equally
improper. Defendants' proposed construction finds no support in the intrinsic record, and, instead,
adds ambiguity, confusion, and uncertainty to a claim term that is otherwise straightforward and
easy to understand.

C. "Data Module"

Claim Term	Plaintiff	Defendants
"data module"	The term "data module" does not require construction and should receive its plain and ordinary meaning as understood by a person of ordinary skill in the art at the time of the invention.	"module including multiple [data handlers]" (footnote: handlers construed separately below)

The term "data module" needs no construction. The term is readily understandable to a
person of ordinary skill in the art reading the claim terms alone, and certainly within the context
of the '523 Patent specification. *Phillips*, 415 F.3d at 1314 ("the ordinary meaning of claim

language as understood by a person of skill in the art may be readily apparent even to lay judges, and claim construction in such cases involves little more than the application of the widely accepted meaning of commonly understood words."). Claim 1 of the '523 Patent already sets forth that the "data module" must be "mounted on the circuit board and coupled between the data ports of the memory devices and the system memory bus," and coupled to the "control module." '523 Patent at Claim 1. Further, it sets forth how the "data module" must be configured in each respective mode. *Id*.

Defendants' proposed construction is unsupported and improper, and should be rejected for at least two reasons. First, the construction is contradicted by the '523 Patent specifications and impermissibly attempts to read unclaimed features of exemplary embodiments into the claims. Second, principles of claim differentiation prohibit Defendants' approach.

1.   Defendants' Proposed Construction is Erroneous in View of the '523 Patent Specification

Starting as we must with the plain language of the claim terms and the intrinsic record, *Vitronics*, 90 F.3d at 1582 (citing *Markman*, 52 F.3d at 979), the disputed claim term "data module" should be "read in view of the specification, of which they are a part." *Phillips*, 415 F.3d at 1309. Here, there is nothing in the claim term "data module" itself that suggests—let along mandates—a particularized construction. Moreover, the specification demonstrates that Defendants' proposed construction is improper.

First, because Defendants' construction of "data module" incorporates by reference their proposed construction for "data handler," this construction is incorrect for all the reasons set forth above with regard to "data handler." *See supra* Section B.

Second, Defendants' proposed construction is not only unsupported by the specification, it actually contradicts the express teachings of the patent. Nothing in the '523 Patent specification

18

requires the data module to include "multiple data handlers." In other words, the data module may include multiple data handlers, but does not have to include multiple data handlers. Instead, the '523 Patent specification teaches that the data module can be comprised of various exemplary subcomponents, including but not limited to "the switch 44, the data handlers 30, the data handler logic element 46, the data generation element 54, and/or verification element 56." *Id*. at 10:7-8, 12:44-46. Additionally, the data module "**may include** discrete logic, one or more application-specific integrated circuits (ASICs)[,] one or more microprocessors, one or more field-programmable gate arrays (FPGAs), or one or more computers programmable logic devices (CPLDs)." *Id*. at 12:46-50 (emphasis added). Thus, unlike Defendants' proposed construction, a data module does not require multiple data handlers.

In fact, according to the specification, the data module does not require any data handlers at all. As annotated in red above (*supra* Section B.1), Fig. 3 of the '523 Patent shows an exemplary block diagram of a data module. *Id*. at 9:32-34, Fig. 3. While Fig. 3 shows that the data module may comprise a plurality of data handlers, the specification clarifies that "one or more of the various functional blocks… of the data module 28 of FIG. 3 **may not be included**." *Id*. at 12:50-52 (emphasis added). Indeed, the data module may comprise merely "one physical component" according to the specification. *Id*. at 12:60-62. Further contrary to Defendants' proposed construction, only "**in certain embodiments**, the data module 28 comprises a plurality of data handlers 30." *Id*. at 10:10-11 (emphasis added). In other words, a plurality of data handlers is a possible—but not necessary—configuration of a data module taught by the patent.

Defendants' proposed construction attempts to read an unclaimed limitation into this claim term. But it would be legally improper to rewrite the claim term to adhere only to the disclosed exemplary embodiments. *Phillips*, 415 F.3d at 1323 ("we have repeatedly warned against

confining the claims to those embodiments."). The mere fact that some embodiments, or even all embodiments, contain a particular limitation is "not enough" to read those limitations from the specification into the claims. *Id.* at 1466-67 ("We do not read limitations from the specification into claims; we do not redefine words. Only the patentee can do that."); *Thorner*, 669 F.3d at 1366. The Court should decline to rewrite the claims as Defendants urge.

2. Claim Differentiation Prohibits Reading in "Multiple Data Handlers"

Principles of claim differentiation demand that "an independent claim should not be construed as requiring a limitation added by a dependent claim." *Curtiss-Wright Flow Control Corp. v. Velan, Inc.*, 438 F.3d 1374, 1380 (Fed. Cir. 2006). "[T]he presence of a dependent claim that adds a particular limitation gives rise to a presumption that the limitation in question is not present in the independent claim." *Phillips*, 415 F.3d at 1315; *Intamin Ltd. v. Magnetar Techs., Corp.*, 483 F.3d 1328, 1335 (Fed. Cir. 2007) ("An independent claim impliedly embraces more subject matter than its narrower dependent claim."). Defendants' proposed construction does not, and cannot, overcome this strong presumption.

Independent claim 1 of the '523 Patent does not expressly claim "wherein the data module includes a plurality of data handlers." Yet dependent claim 2 includes that **<u>exact</u>** limitation. *See* '523 Patent at claims 1, 2. Because this limitation is positively recited in a dependent claim, it is not, and cannot be, imported into the independent claims. *World Class Tech. Corp. v. Ormco Corp.*, 769 F.3d 1120, 1125 (Fed. Cir. 2014). Thus, construing "data module" to necessarily include "multiple data handlers" is improper and the Court should decline doing so.

VI.   CONCLUSION

For the foregoing reasons, the Court should adopt Netlist's proposed constructions for "first mode" and "second mode," and decline to construe the remaining terms. The Court should reject the unsupported and erroneous constructions advanced by Defendants.

20

Dated: January 20, 2021

/s/ *Andrew H. DeVoogd*
James M. Wodarski
  (*Admitted pro hac vice*)
  Massachusetts BBO No. 627036
  E-mail: JWodarski@mintz.com
Andrew H. DeVoogd
  (Admitted to practice in WDTX)
  Massachusetts BBO No. 670203
  E-mail: AHDeVoogd@mintz.com
Matthew S. Galica
  (*Admitted pro hac vice*)
  Massachusetts BBO No. 696916
  E-mail: MSGalica@mintz.com
MINTZ LEVIN COHN FERRIS GLOVSKY AND
  POPEO P.C.
One Financial Center
Boston, MA 02111
Tel: 617-542-6000
Fax: 617-542-2241

J. Stephen Ravel
  Texas State Bar No. 16584975
  Email: steve.ravel@kellyhart.com
KELLY HART & HALLMAN LLP
303 Colorado, Suite 2000
Austin, Texas 78701
Tel: (512) 495-6429

Attorneys for Plaintiff Netlist Inc.

21

CERTIFICATE OF SERVICE

The undersigned hereby certifies that a true and correct copy of the foregoing document

has been served on January 20, 2021 to all counsel of record who are deemed to have consented

to electronic service via the Court's CM/ECF system.

/s/ *Andrew H. DeVoogd*
Andrew H. DeVoogd